

The Present State of Open Source Software in the Nordic Countries

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BACKGROUND

The Ad Hoc Group for Developing Open Source in the Nordic Countries

- The group consists of:
 - Representatives from companies developing open source software
 - Representatives from companies providing services for open source users
 - Representatives from the Nordic Industrial Fund
 - Industry experts

The Ad Hoc Group Believes That:

- The Nordic countries should take the lead on open source in Europe
- The promotion of open source creates innovation
- The use of open source in the public sector gives better software to lower costs.
- Open source creates employment opportunities
- The financial and social advantages for the Nordic countries of using open source are considerable and justify an investment by the governments

Basic Issues

- The purpose
 - Create prerequisites for open source companies
 - Support the creation of better and cheaper products based on open source for users
 - Give priority to open source products in the public sector
 - Give information to:
 - Governments, organizations and companies in the Nordic countries
 - The Working group on Libre Software within the EU
- The goals
 - Boost the credibility and usability of open source products
 - Encourage the creation of more open source companies and make the Nordic countries front runners in open source in Europe
 - Make suggestions for actions to promote the use of open source software
- Limitations
 - No breakdown per country
 - No in depth analysis

What is Open Source?

- Definitions
 - Open source = Software, including the source code that comes with the more or less unlimited rights to, at certain conditions freely use, alternate and distribute for everyone.
 - Free software = Free referring to freedom, not necessarily free of charge. Same rights as for open source software
 - Shareware = Software that is free of charge to use, usually for non commercial use, but with a closed source code
 - Proprietary software = Software that is not distributed with its source code, usually requiring a license fee for each user
 - Linux = An open source operating system distributed free of charge
 - Open source community = all individuals participating in the development and use of open source software

SUGGESTED ACTIONS

- Collect and Spread Information
- Propose Platform Strategies
- Create New Open Source Business Ideas

Collect and Spread Information

- Information about present offering of Open Source alternatives needs to be collected into one place, preferably a web site
 - The information needs to be spread to IT-related magazines and other media
 - Leading proprietary software solutions should be compared with leading open source ones; a test method could be developed if needed
 - The information should be presented in an easy way for relevant contact groups, accessible over the web, to function as a decision making background
 - Not only should information about products and software be collected, but also about Service Availability (Suppliers and contact information) and the total product offering.
 - Information about open source initiatives in other countries should be collected and spread
 - A concrete step would be to arrange a Nordic conference on Open source issues

The target group is mainly IT specialists and journalists

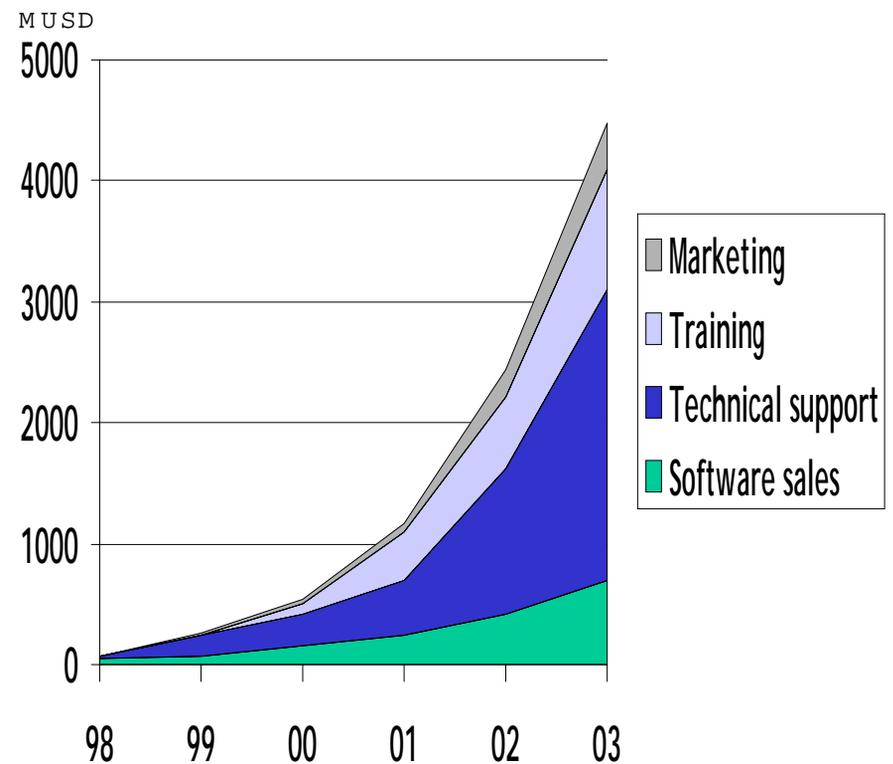
Open Source Companies' View of the Future

- Linux
 - Linux will keep growing
 - 'Monopoly' → Duopoly
- Open Source applications
 - Will become more common on PCs
 - Create learning and employment opportunities. More skilled programmers will be emerging
 - Speeds up product development and contributes to innovation
 - Good office suites, e-mail, web browser and picture editor are already available. Their use will increase along with Linux usage

The Open Source Market Will Grow

Estimated development of the open source market

- The open source market is expected to grow dramatically in the coming years
 - Ease of use increases with advanced graphical user interfaces
 - Linux increases the visibility of open source
 - The number of Linux users has doubled every five months since 1991 and the trend continues
 - Linux users often prefer open source applications



Source: WRH+Co, IDC, Dataquest, och Jupiter Communications, 23.5.2000

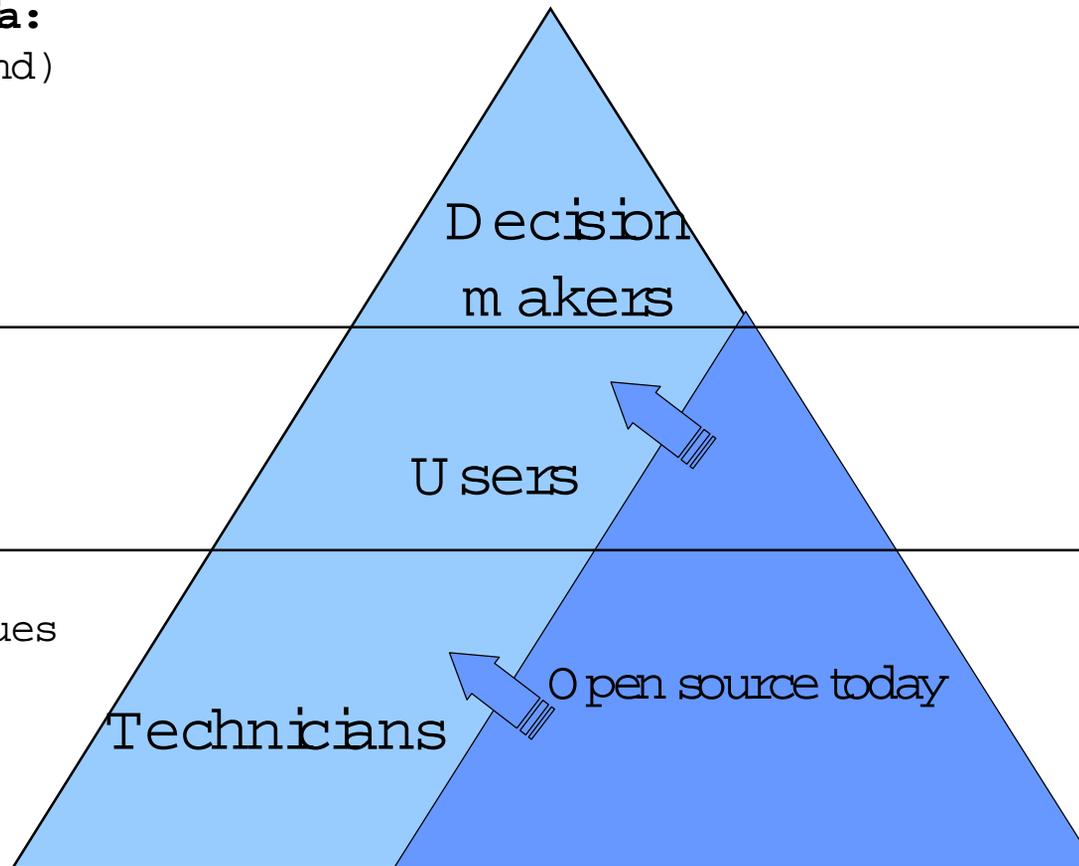
Challenge: Open Source Needs to Get Exposure and Acceptance on the Level of Decision Makers

Buying criteria:

- Security (Brand)
- Price
- Risk
- Credibility
- Ease of use
- Speed
- Support
- Availability
- Technical issues
- Speed
- Maintenance need

Access through:

- Partnership
- Conferences
- Expos
- Internet
- Conferences
- Colleagues
- Linux news
- Articles
- Internet



Present Significant Open Source Products and Companies, Nordic

- Products
 - Linux
 - MySQL
 - Qt
 - Freemoney.org
 - Kannel
 - CPAN (Comprehensive Perl Archive Network)
 - PHP
 - Midgard
 - OpenSSH
- Services
 - MySQL AB
 - Klarälvdalens Datakonsult AB
 - Best Linux
 - IBM

Examples of Significant Open Source Products, Companies and Initiatives, Global

- Products, Companies
 - KDE
 - Netscape Navigator
 - StarOffice
 - Darwin
 - O'Reilly & Associates
 - Red Hat
 - VA Linux
- EU's Information Society Commissar wants to use open source software in the EU administration
- The German Ministry of the Interior is investigating the possibility to use open source software
- The Mexican schools have switched to open source software
- The Brazilian state Rio Grande de Sul uses open source software in its administration
- IBM has invested considerable amounts in making hardware with preinstalled open source software.

Issues to Address Are e.g.

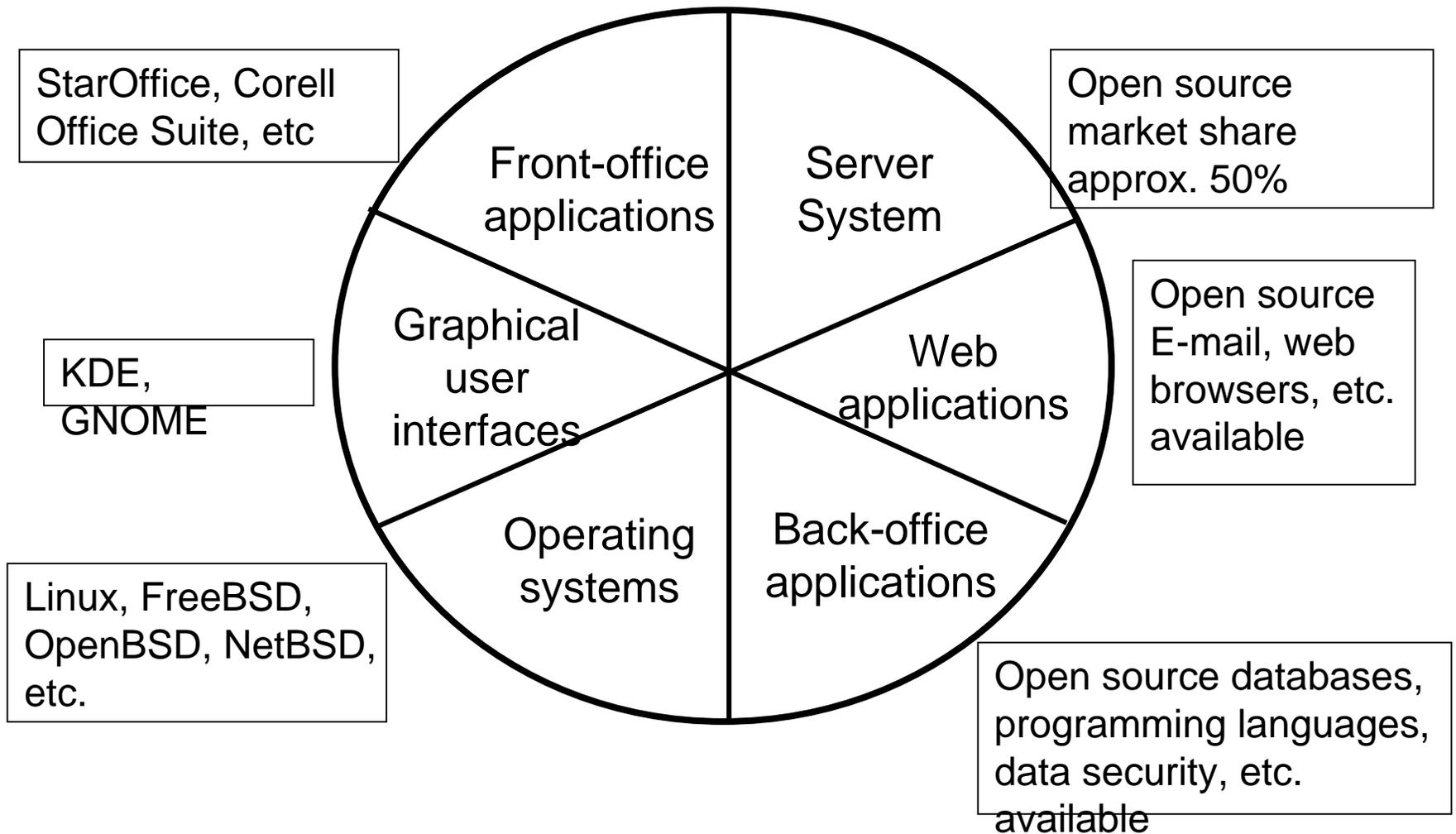
- Individuals
 - Ease of use
 - Awareness among users of the availability of support
 - Attitudes
 - Still hard to buy for organizations and individuals. PCs with open source software pre-installed needed
- Organizations
 - False beliefs about open source's inability to handle mission critical processes
 - To accept the lack of warranties on open source programs
 - Some gaps in the availability of special applications need to be filled in e.g. ERP systems

Platform Strategies

- Although Open Source might present a viable alternative solution in many situations, Open Source alternatives might often be excluded from being short listed just because of a platform strategy (e.g. “In our organization we use operating system ABC”) that requires certain operating systems, databases, office applications or other products
- Argumentation for why Open Source is a platform strategy that is in accordance with the goals of many organizations is needed
- The offering of Open Source starts from back-end systems and servers, over operating systems, databases, graphical user interfaces to applications; this can be drawn as a circle with sectors in decreasing order of Open Source market penetrations, where some sectors are still totally left to proprietary solutions
- We need to map out the sectors, and investigate what is needed in order for the platform strategy especially of Public Sector organizations to rely on Open Source solutions

The target group is to begin with the Public Sector in the Nordic countries

Software Categories



Open Source Systems in Use in Government, Organizations, Etc.

- Open source web servers, e-mail transport systems, Domain Name Servers, etc appear in government and business organizations. E.g.
 - The Bank of Finland uses open source software in its web page (Perl)
 - The Finnish Parliament's public server is an Apache server
 - The Finnish Council of State has Apache servers with Linux applications built with Perl
- The digital-TV set top box for from Nokia uses Linux as its operating system
- Telia uses the MySQL database
- Volvo's web server is an Apache web server

Guidelines for Government Software Procurement

- Present
 - There are no special software procurement guidelines regarding open source
- Suggestions
 - The guidelines should emphasize the software's:
 - Quality
 - Total cost
 - Service availability
 - Other important aspects are:
 - Compatibility with others with whom documents are exchanged
 - Possibility to use documents created prior to the update
 - Open source software can fulfill all these requirements if the transition project is well planned and properly staffed

Equal opportunity in government bidding

- Government procurement is regulated and decisions should be objective
- Open source applications are available for all government needs
- The security of open source products can be verified by the user.

New Open Source Business Ideas

- The market sectors, in which today only proprietary solutions exist, present excellent opportunities for new Open Source companies
- Describing several sustainable business models for Open Source companies will create conditions in the Nordic countries, that are favorable to the creation of new companies
- Information about both general business models and specific business ideas can be collected and spread over the web
- The target group to begin with consists of entrepreneurs, organizations, universities, students, seed companies etc.

Present Earnings Logics Around Open Source

- **Open source companies earn money through:**
 - Support sellers – Sales of books, manuals, CDs, training and support (NuSphere)
 - Loss-leader – Give away the program to stimulate demand for other products offered by the company (WapIt)
 - Widget-frosting – The release of hardware drivers to ensure their maintenance and quality. Close to the Loss-leader model (Hewlett-Packard)
 - Accessorizing – No development but open source products as part of information or physical product (Yahoo! Finance, Ericsson)
 - Service enabler – The software helps using online services. Close to the Loss-leader model (Webcounting)
 - Sell it, Free it – Changing the license over time (Netscape)
 - Seminars and speeches (Klarälvdalens Datakonsult Ab)
 - Installation and customization (Best Linux)
 - Brand licensing – Release the product, but keep the rights to the Brand (Linus Torvalds)

SWOT of Open Source as a Business Driver in the Nordic Countries

STRENGTHS

- The development of a product does not stop with the decision of one company
- Enables innovation
- Enables learning and (self)employment
- Total cost of ownership is competitive
- The security of the software can be verified by the user
- Possibility to optimize for efficient personal use.
- Possibility to fix bugs in the software

WEAKNESSES

- Incompatible versions of the same software may arise (Has happened to Linux but the major distributors are taking action against it.)
- Image as too technical for the average computer user
- Far from all open source software has reached a critical mass of users to secure a high quality support
- Lack of support for open source among traditional decision makers.

OPPORTUNITIES

- Equality enhancing
- Better cooperation and joint development between companies
- Open Source used in the public sector could reduce cost levels dramatically without sacrificing quality. The same applies for organizations in the third sector
- Developing countries (that can't afford proprietary software) could become large markets for open source products
- Nordic countries could take a leadership role in Open Source globally, and get to reap the benefits as the new economies (Europe, Asia, S America) grow.

THREATS

- **SW patents can harm the open source movement in Europe all together**
- **The large software companies buying the open source companies and making it closed source**
- **Licenses that look like open source licenses but aren't. This can undermine the credibility of open source and confuse users**
- **Question marks around the long-term earnings logic**
- **Customers perceive licensing schemes as complicated and/or unfamiliar.**

CONCLUSIONS

- It is important to get young people acquainted with open source software as early as possible. The introduction of open source software in schools and universities is vital in this process
- The Nordic countries have a lot of good entrepreneurs on the open source arena, but there is little being done to support that entrepreneurship
- The active involvement of the public sector on different levels is a great boost to the acceptance of open source software
- The total cost of open source software is lower than that of proprietary software. How much, is impossible to say as it depends on the needs and use of the individual system
- Open source software fits well in the Nordic mindset

BENEFITS FOR THE NORDIC COUNTRIES

- Financial
 - By using open source software in the administration the total cost of IT can be reduced. The cost for services will probably remain on roughly the same level, but the acquisition cost as well as updating costs will be dramatically reduced
 - The license for a proprietary operating system and office suite can be high and a separate license is required for each workstation
 - New companies offering support services for open source software
 - New companies provide employment opportunities
 - If open source truly is or will be a paradigm shift then being in the forefront will yield exceptionally attractive business opportunities.

BENEFITS FOR THE NORDIC COUNTRIES

- **Social**
 - Open source opens up the possibility for more people to afford IT. In the community today there is a widening digital divide between those who can afford Internet connections and can use it effectively and those who do not have access to the Internet and therefore can not take advantage of all it can provide
 - Open source enhances equality in the society by lowering the cost for being part of the information society
 - The cost of providing public Internet access in libraries, schools, universities, etc. could be reduced by using open source software on these machines. This way the same amount of government money would allow for more terminals for the public to use
 - The wide adoption of open source would strengthen the image of the Nordic countries as one of the most advanced regions in the world on IT usage.

COMMUNICATION PLAN

- The report should be distributed to:
 - All open source companies in the Nordic countries
 - As many decision makers as possible in the private and public sector
 - Leading IT and management papers in all Nordic countries in the form of articles summarizing the report
- Erkki Liikanen, EU's information Society Commissar
- The report and presentation material is available on the web and a Link will be inserted on the Nordic Industrial Fund page
- A joint Nordic conference on open source should be held

Appendices

Appendix 1

The Ad Hoc Group

- Kaj S. Arnö, [Polycon](#) Ab, Finland, Chairman
- Eirik Aavitsland, [Trolltech](#) AS, Norway
- Hans Schou, [Schou Industries](#), Denmark
- Erik Granström, [MySQL AB](#), Sweden
- Kalle Dalheimer, [Klarälvdalens Datakonsult AB](#), Sweden

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Appendix 2

A Short History of Open Source

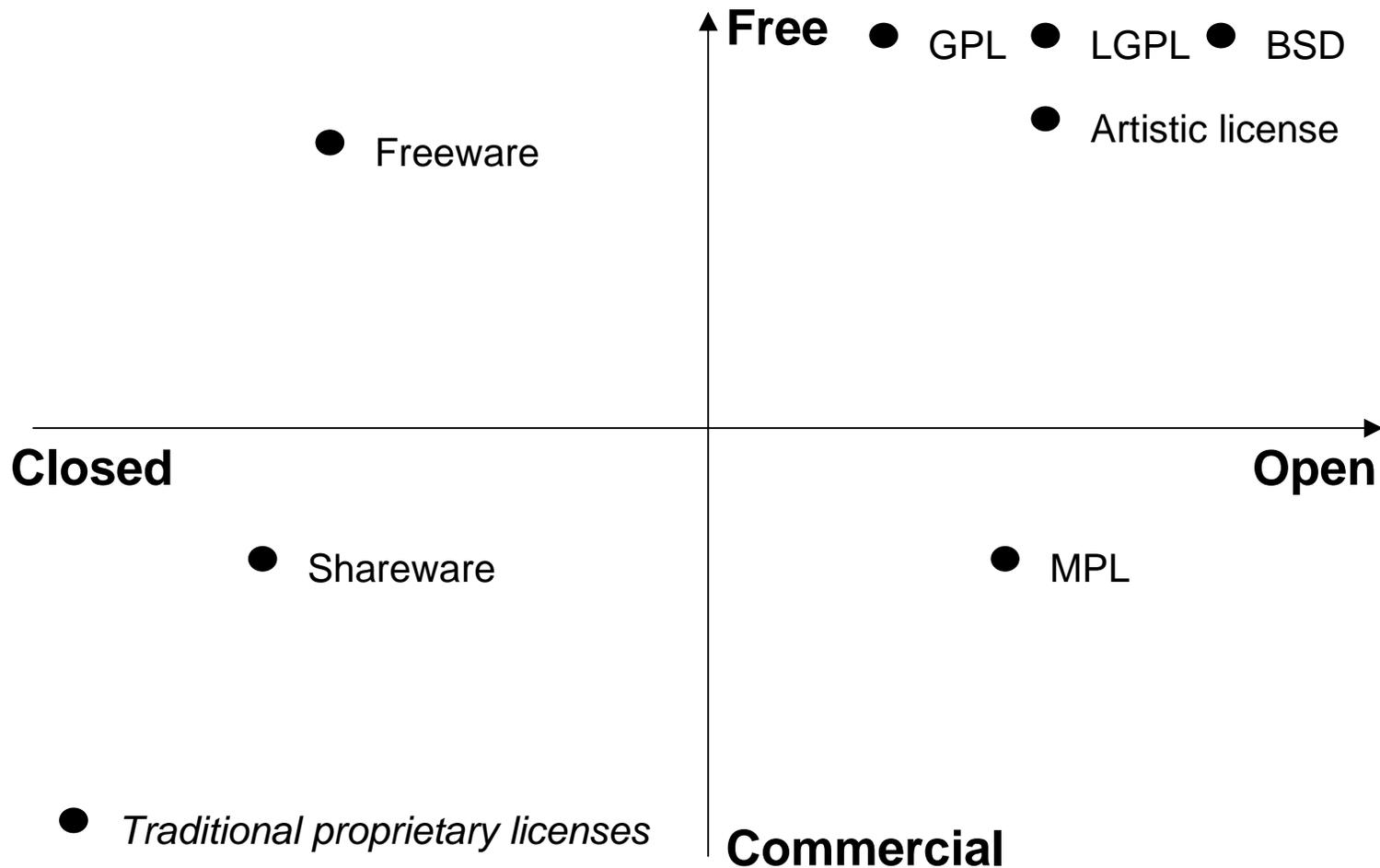
- Development started in the 60's and 70's in MIT's Artificial Intelligence Lab and University of California at Berkley. these had internal networks which allowed students and faculty to share code
- In 1984 Richard Stallman, RMS, began writing software for the UNIX system but he made his software free unlike the proprietary UNIX. His goal was to make a free operating system he called GNU.
- In 1991 Linus Torvalds releases the Linux kernel free of charge on the Internet and developers all over the world developed it further and added features.
- During the 90's open source products compete with proprietary solutions and take a large market share from established proprietary products in certain areas.
- At the turn of the millennium Linux is the second most used operating system in the world after Microsoft Windows.
- LAMP is an example of a complete solution of software to run a web page, e.g. an e-commerce site, on open source software
 - Linux operating system
 - Apache server application
 - MySQL data base
 - Perl or PHP programming language

Appendix 3

Different Licenses and Their Characteristics

- Open source software is available under different licenses e.g.:
 - GPL (GNU Public License)
 - The GPL was carefully designed to promote the production of more free software. The main characteristics of the GPL is that it allows binary redistribution, but only if source code availability is also guaranteed; it allows source redistribution, it allows modification without restrictions and complete integration with other software is only possible if that other software is also covered by GPL.
 - MPL (Mozilla Public License)
 - This is the license made by Netscape to distribute the code of Mozilla, the new version of its network navigator. It is in many respects similar to the GPL, but more "enterprise oriented".
 - BSD (Berkeley Software Distribution)
 - It is a good example of a "permissive" license, which imposes almost no conditions on what a user can do with the software, including charging clients for binary distributions, with no obligation to include source code. In summary, redistributors can do almost anything with the software, including using it for proprietary products. The authors only want their work to be recognized.
 - Other licenses and license conditions are available at www.opensource.org

Examples of Open Source Licenses



Appendix 4

Possible Additional Actions to Promote the Use of Open Source

- Initiative to increase open source usage at all levels in education
- Study on the issues of Intellectual Property Rights and Patents in relation to Open Source
- Initiative to make it possible for public sector (central government, local government, and also third sector) to use Open Source products and services
- Initiative to make Open Source products and projects part of the Nordic development aid to the Third world
- Study on the financing of open source companies (public financing, institutional financing, VC, etc. and how these view open source)
- A joint Nordic initiative on the security of (open source) software
- Academic studies using the code base of open source software as sample code

Appendix 5

Open source products, companies and initiatives

1) Present Significant Open Source Products and Companies, Nordic

- Products
 - Linus Torvalds created Linux in 1991 as a university student at Helsinki University from a Unix clone. He distributed it free of charge over the Internet and the number of developers has risen steadily ever since. Today Linux is the second most used operating system in the world after Windows
 - MySQL is a database developed by MySQL AB, a Finnish/Swedish company. It is the most commonly used database in open source applications and is included in all major Linux distributions.
 - Qt is a product by Trolltech AS in Norway. It is a library used for graphic user interface (GUI) design, e.g. KDE, one of the most used open source GUIs.
 - Freemoney.org is a Danish open source initiative. Freemoney.org is developing an open source accounting program to be used in organizations of all sizes.
 - Kannel is an open source SMS and WAP gateway for mobile networks. By giving away the gateway WAPit, the creator of Kannel, can sell applications and services related to WAP.

2) Present Significant Open Source Products and Companies, Nordic Cont.

- Products cont.
 - Perl CPAN is the Comprehensive Perl Archive Network, a large collection of Perl software and documentation. Jarkko Hietaniemi, a Finn, introduced it to the Perl community in 1995
 - PHP Rasmus Lerdal, Born on Greenland and grew up in Denmark and Canada, wrote the original PHP. PHP is a server-side, cross-platform, HTML embedded scripting language. PHP is a project of the Apache Software Foundation.
 - Midgard 1.4 is an Open Source (OS) content management system based on Apache and MySQL. The system uses PHP as its scripting language.
 - OpenSSH is a FREE version of the SSH protocol suite of network connectivity tools that increasing numbers of people on the Internet are coming to rely on.

3) Present Significant Open Source Products and Companies, Nordic

- Services
 - Polycon Ab, based in Finland, offers MySQL training courses for the global market. This business has recently been acquired by MySQL
 - Klarälvdalens Datakonsult AB offers training for various open source products as well as programming services
 - Best Linux is a Linux distributor with the largest market share in Finland. One reason for this might be that they have translated the GUI and user manuals to Finnish and Swedish. Aside from the Linux distribution Best Linux offers technical support, training and additional Linux applications such as games.
 - MySQL AB, offers support, consulting and training for MySQL

4) Present Significant Open Source Products and Companies, Global

- KDE is a graphical user interface (GUI). It is widely used in open source operating systems and is included in most major Linux distributions.
- Netscape Navigator is one of the two most commonly used web browsers. It was made open source in 1998 and has achieved a faster growth after the opening.
- StarOffice is Sun's suite of office applications including word processor, spread sheet, presentation, graphics illustrations, e-mail, organizer, etc. It was made open source in 2000
- Darwin Apple has released the source code for its newest operating system, the Mac OS X, under the name Darwin.
- O'Reilly & Associates publishes books in the technical field. They fund open source development and promote the use of open source software because it increases the demand for their books.

5) Examples of Global Open Source Initiatives

- EU, Erkki Liikanen, the Information Society Commissar, leads EU's open source initiative. The Commission, together with the member states, is doing a study on the possibility to switch to the use of open source software in administrative functions within the EU and the member states.
- At the German Ministry of the Interior there is a three man team investigating the government's possibilities to switch to the use of open source software. A guide for Small and Medium size Enterprises is being developed to help them understand the benefits of open source software
- The Mexican schools have switched to open source software. This has led to some good Linux developers emerging from Mexico
- The Brazilian state Rio Grande de Sul uses open source (GPL) software in its administration
- The Brazilian Health Ministry is considering open source for its national system
- IBM has voiced support for open source on many occasions. IBM has also invested considerable amounts in making hardware with preinstalled open source software instead of proprietary software.

Appendix 6

Patents and Open Source

- Software patents may well harm the open source momentum in Europe
- A study on the economic impact of software patents has been done by a group for the European Union. It concludes that software patents under certain conditions are positive
- Clearly the issue on the pros and cons of software patents is still unresolved. Further studies need to be conducted to get a complete overview

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